Notes on some of the British Nepticulidae, II

By A. M. Emmet

The current notes follow the pattern set by the first series and cover much of the same ground: that is to say, there is not much extension of the range of food plants. But there is plenty of new material. Three new species are added to the British list and one to the Irish list. Evidence is produced to show that three species hitherto considered to be British do not in all probability occur in this country. Three supposed species are reduced to synonymy. There is the first description in English of the imago of a species hitherto only recorded here from its mine and there are tables for the determination of some of the neps not in Meyrick (1928). Two life histories which have been erroneously described in our standard text-books are put right. Ten species of doubtful status are discussed and with some of them arguments are put forward for their retention or rejection as 'good' species. Attention is drawn to some of the errors in Beirne's *Male Genitalia of the British Stigmellidae,* and there is more besides. There is enough to justify me in once more putting pen to paper. Yet there is still much to be done, for knowledge breeds an awareness of ignorance, and problems, in this fascinating group, grow like hydra's heads.

The most important recent publication on the Nepticulidae has been *Notes on Nepticulidae I* by Roland Johansson. This paper, which is written in English, appeared in *Entomologica Scandinavica* **2**, 241-262, and was published in 1971. It falls into two parts, the first a general introduction and the second a revision of the oak-feeding neps of the *ruficapitella* group. I shall draw extensively on the second section in due course under the heading *Quercus,* but here I should like to discuss some of the interesting points raised in the introduction.

First of all, Johansson discards the name *Stigmella* (Schrank 1802) because it is a generalised description only without reference to a designated genotype; moreover, Schrank's description is inaccurate as applied to the Nepticulidae in that he says that the palps are absent, the tongue is present and the wings are rolled. Johansson therefore reverts to the name *Nepticula* (Heyden 1843) which was in general use until Fletcher re-introduced *Stigmella* in 1934. Thank you, Johansson! In saying this I expect I speak for every microlepidopterist in the country.

Nevertheless, there is still a problem. Johansson's revision came too late for full cognisance to be taken of it in the new edition of Kloet and Hinck's Check List, which was already in page-proof form and too far advanced for major alterations. The list, therefore, retains the name *Stigmella.* The purpose of the check-list is to give us standarisation of nomenclature and this can only be attained if we accept its rulings whether we like them or not. So I feel that in the interests of uniformity we should follow Kloet and Hincks unless an amendment

is published.

Beirne (1945) divided the Nepticulidae into nine genera as shown in my previous notes (*Ent. Record* **83**: 76): Johansson splits them into only two groups. The first of these, *Nepticula*, embraces Beirne's first two genera, *Stigmella* and *Nepticula*. Beirne's distinction was based solely on characters of the male genitalia such as the shape of the uncus, but was not reflected in the biology of the insects or the external characters of the imagines. Few people could remember whether a moth was a *Stigmella* or a *Nepticula* or could see why this should be so. In principle, therefore, I welcome this change, but will continue to use *Stigmella* for the reason given above.

Johansson recognises that his genus *Nepticula* is rather unwieldly, so he subdivides it into two groups of associated speces under the name of a member of the group. Thus we have the *aurella* group, the *ruficapitella* group, the *oxycanthella* group and so on. This is convenient only when the groups are homogeneous, but in some cases it appears that they are not.

The remainder of the Nepticulidae (Beirne's genera 3-9) are lumped together by Johansson into a single genus *Trifurcula* Zeller 1848 (*sensu lato*), but he retains Beirne's divisions as sub-genera. To divide one half of the family into groups and the other half into sub-genera is untidy and I cannot believe this policy will find wide acceptance.

Johansson makes two further changes in Beirne's nomenclature: he prefers *Ectoedemia* Busck 1907 to *Dechtiria* Beirne 1945 on the rule of priority, and *Scoliaula* Meyrick 1895 to *Bohemannia* Stainton 1859 on the grounds that the latter name is preoccupied. The new Kloet and Hincks concurs with the former but not with the latter amendment.

Johansson gives a useful list of the British and Scandinavian species of Nepticulidae classified as has been indicated. Nine of the British species are marked with an asterisk signifying "Status of species uncertain, in all probability synonymous with the preceeding species." Two more are marked with a double asterisk, meaning "Status of species uncertain." One of these latter is *ignobilella* Stainton and I hope I shall be able to settle this case once and for all in the notes which follow. I have no knowledge of the other species, *castanella* Stainton; the new Kloet and Hincks list regards it as doubtfully synonymous with *ruficapitella* Haw.

I do not know whether Johansson is expressing his personal opinion or current continental doctrine in his allocation of single asterisks, but I propose to consider each case. In some instances I have little of consequence to say, in others a good deal. I am sure that one of his asterisked species is synonymous and two are not; for the remainder I express my views with varying degrees of uncertainty. My opinions are based on biology rather than morphology and so may supplement the work of more professional naturalists.

I shall now proceed to discuss the pairs or groups of questionable species.

(1) *aurella* Fabricius
**nitens* Fologne
splendidissimella Herrich-Schäffer
**gei* Wocke
fragariella Heyden
**dulcella* Heinemann

I am treating these three pairs together as they belong to the same group. I have not yet studied them in detail, so I have little of moment to say. I have already discussed the case of *nitens* (*Ent. Record* **83**: 78-83), coming to the tentative conclusion that it is a good species; but my mind is still open. It seems that *nitens* has been scarce in recent years and further study has been held up for lack of material.

Certainly *gei,* as understood in this country, is not the same as *splendidissimella* which is a distinctive species as an adult. Our *gei* has the *aurella* pattern, that is to say the forewings have the basal third of a metallic hue, the outer two thirds purple or purplish fuscous, and a metallic gold or silver fascia just beyond the middle. It is quite likely that *splendidissimella* sometimes feeds on *Geum,* but (in Britain, at any rate) so does this other species.

There are certainly two species which feed on *Fragaria* and you can tell from the mine which one you are going to breed. That which comes from the larger mine with dispersed frass is what we call *fragariella,* while the little moth coming from the finer mine with the thin median line of frass is our *dulcella.* The adults look quite distinct and both do not necessarily occur in the same locality.

I shall now give a table comparing the species under discussion but omitting *splendidissimella.* It is based on insufficient material and represents a starting point, not a considered conclusion: it is there to be criticised and to provoke correction. Many heads have been scratched over these species during the last hundred years and there is more scratching to be done before we reach a final answer.

The description of wing-colours is difficult because they are structural rather than pigmental; this means that they look different when seen in different lights or from different angles. Possibly they look different to different people. This may explain the confusing contradiction in the descriptions of the several species in our literature. Moreover, the species are not strictly host-specific but from time to time trespass on each other's foodplants. For this reason the series in collections get mixed and entomologists imagine a degree of variation that does not exist.

It is well known that the genitalia of this group provide little help in determination. I wonder whether an analysis of the structure of the scales, especially those of the basal part of the forewing, would offer a surer basis for distinction.

(To be Continued)

Feature	*aurella*	*nitens*	*gei*	*fragariella*	*dulcella*
Wingspan	7 mm	5-6 mm.	5-6 mm.	5-6 mm.	4-5 mm.
Head	Deep orange	Orange to black	♂ orange, ♀ orange-fuscous	Blackish, possibly sometimes orange	Pale yellowish orange
Eyecaps	Pale orange	White	Yellowish white	Yellowish white	White
Forewings					
(a) basal ⅓	Bronzy shot with purple	Brilliant metallic green, costa often purple	Bronzy purple, costa more purple	Brassy green, costa often purple	Brownish or olive bronze
(b) outer ⅔	Deep purple	Deep purple fuscous	Deep violet purple	Deep purplish brown	Dark brown with a purplish sheen
(c) fascia	Rich golden	Yellowish silver	Silver to pale gold	Pale gold, narrow	Silver to pale gold broader
Foodplants	*Rubus*, *especially R. fruticosus*	*Agrimonia*	*Geum urbanum* *G. rivale* ? *Rubus* spp	*Agrimonia* *Fragaria*, *Rubus idaeus*, *R. caesius*	*Fragaria*